

160 RE.CEIVED

JAN 2 9 2003

TECH CENTER 1600:2900

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/368,670C

DATE: 01/23/2003 (66 TIME: 08:29:28

Input Set : A:\Corrected sequence listing#2.txt Output Set: N:\CRF4\01232003\1368670C.raw

```
4 <110 AFPLICANT: Boehringer Trigelheim (Canada) Ltd.
   6 <120> TITLE OF INVENTION: Hepatitis C Inhibitor Peptides
   9 <130> FILE REFERENCE: 13/063-2-C2
11 <1400 CUPPENT APPLICATION NUMBER: 09/368,670C
12 <141> CUEEEMI FILING DATE: 1999-08-05
14 <1500 PRIOR APPLICATION NUMBER: 60,095,945
15 <151> PRIOR FILING DATE: 1998-08-10
17 <1500 PRIOR APPLICATION NUMBER: 60,055,186
18 (181) PFIOR WILLIAM DATE: 1997-08-11
OF $1500 PETOF APPLICATION NUMBER: 09/131,758
        The state of the s
          Tell NUMBER OF SEQ ID NOS: 53
        :17) COFTWARE: FastSEQ for Windows Version 4.0
27 - 21 0 SEQ ID NO: 1
26 <211: LENGTH: 6
29 K2120 TYPE: PRT
iù K2150 ORGANISM: Hepatitis C
 32 <220 FEATUFE:
 33 <221> NAME/HEY: VARIANT
 :4 <222 LOCATION: 1
 Ed <220 OTHER INFORMATION: Asp is capped with Ac
 97 <400 SEQUENCE: 1
 th Asp Asp lle Val Pro Cys
       SATE AROTE NO. 2
 1.
43 *2:1: LENGTH: 12
44 1312> TYPE: PRT
4 : - z:3x GRGANISM: Hepatitis C
47 JANES PROTENTE: 2
46 Asp Asp Lie (a) Fro Cys Ser Mc: Ser Tyr Thr Trp
   50 - 213 - ORGANISM: Hebatitis C
D. WZZC > FFATUFF:
BH REDIT MAME/MEY: VARIANT
be cally focation: 1
60 02225 OTHER INFORMATION: Ask is carried with biotin
62 32217 NAME/KEY: VARIANT
Francisco Composition : 0
+4 - 12 - FIHER INFORMATION: Type To be almost en
```

W--> 66 <400> 3

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```
67 Asp Asp lie Val Pro Cys Ser Met Ser Tyr Thr Trp
                         5
     71 <210 - SEO ID NO: 4
     72 <211 - LEUGTH: 6
     7 + C212 - TYPE: PHT
     71 Cll3 - OF ANISM: Hepatitis C
     76 <220 - FEATURE:
     77 - 201 - NAME/KEY: VARIANT
     7 - 1222 - LOTATION: 4
     74 < 223 - OTHER INFORMATION: Tyr is iodinated
     8. (400 SEDUENCE: 4
     8. Jer Met : er Tyr Thr Trp
     8 1
     86 <210 - SEO ID NO: 5
     8 1 4211 LEMSTH: 17
     85 -02120 TYPE: PHC
     8 + < ₹13 - OF FANISM: Hepatitis C
     91 <400. SEQUENCE: 5
     9 Lyr ing "by Car Val Val Ile Val Gly Ard Ile 'be ben Ser Gly Ard
     9: Lan
     9° < 10° SEC ID DC: 0
     9 + < 111 + LEAGTH: 11
     100 K2111 TYPE: FET
     1-1 (21: OEGANISM: Repatitis C
     1:3 <2200 FEATURE:
     104 42210 NAME, HEY: VARIANT
     1 65 KORDE DECATION:
     186 (22) COMER INFORMATION: App is derivatized with anthranilyl
     106 KREEL NAME, REV: VARIANT
     1 (3 <2220 LOCATION: 6
     110 122 C OTHER INFORMATION: Xad Abu
W--> 112 <221> VARIANT
     118 .2210 \text{ Locality}(N) = 6) \dots (7)
     1.1 1990 OF HER IMPORMATION: Abu-A between 6 and 7 is C(O)-O
W--> 116 <221> VARIANT
     1.7 \le 2211 \cdot 10 \, \text{GATTON:} \ 9
          PLY DIRECTORY MATICAL TO SO WYSELS ON WITH A SERVICE
W--> 120 <400> 6
W--> 121 Asp Asp Ile Val Pro Xaa Ala Met Tyr Thr Trp
          1.6 kgil. L:NGTH: 4
     ter, vitie mount. DE
     1.8 213: OrGANISM: Hepatitis C
     i č 1220: PLATUPK:
     1:1 - 22%: NAME, KEY: VARIANT
     1. X 42222 LCCATION: 1
     153 <223> OTHER INFORMATION: Ala is succinylated
```

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Imput Set : A:\Corrected sequence listing#2.txt
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135 KOSIN NAME/KEY: VARIANT 156 0.225 tonA"10N: 4 157 (23) OTHER INFORMATION: Phe is derivatized with para-nitro-aniline W--> 139 <400> 7 140 Ala Ala Pro Phe 141 ! 144 : 10 > 100 ID NO: 8 1; this Language 6 146 L LLD TYPE: PRT 147 - 133 OF GAMESM: Repatitis C 149 HOROS FEATURES: 190 HIRLD NAME KEY: VARIANT 191 -Class LOTATION: 112 -1.25 OTHER INFORMATION: Asp is acetylated 154 HACON PEQUENCE: 8 155 Asp Asp Ile Val Pro Cys 11 6 3 15 # 3. .00 JF. D NO: # 145 -1711: LENGTH: 6 100 the second that the first of the first o 164 - 10 - FEATURE: 165 KUDIN MAMERKEY: MARIANT 100 -0.220 LOCATION: 1 167 -0.28% OTHER INFORMATION: Glu is acetylated 169 -GEOD SEQUENCE: 9 170 Glu Asp The Val Pro Cys 171 174 ... 10. SEC IP NO: 10 17: -4.112 DENGTH: 5 176 -0.12> TYFE: FRT 177 : 13: OFCANTSM: Hepat.tis C 179 K. 200 FEATURE: iko 3. Zi. nave kau: Variand 1st 2,225 LocA" (ell: Dy. 5.23 Of TR INFORMATION: Asp is capped with DAD 184 < 100 - SEQUENCE: _0 is an is we for the 186 Park to the stage of the terms of the 136 C. 11. LENGTH: 6 196 Clist ObsAMILM: Hepatotis () 144 8 20 th America. 195 < 21 NAME/KHY: VARIANT 196 K.20° LOCATION: 1 197 K.23° OTHER INFORMATION: Asp is acetylated

14% %400 + DEQUENCE: 11 200 Amp Glu Ile Väl Pro Cys

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Input Set: A:\Corrected sequence listing#2.txt
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```
201 1
              204 <2105 SED ID NO: 12
             205 <211 LEUGTH: €
             2 66 < 1. TYFE: FRT
             300 4.15 ORWANISM: Hepatitis C
              209 <.20 FEATURE:
              2.0 < 121 NATE (REY: VARIANT
             BII KARI - LOTATION: 1
             21.1 F. 11 - OTHER INFORMATION: Asp is acetylated
              214 KATH - EBRUENCE: 12
             215 App Val Ile Val Pro Cys
             2.0
             319 < 6 - 2E2 10 NO: 13
              Bud < II. LENGTH: 6
             2.11 < 111 TYPE: PET
             2.2 % 150 OF FAMISM: Hepatitis C
             2.4 < ... FEATURE:
             PARE SELECTION OF 
              R. G. F. Life LOCATION: 2
              P. T. K. P. OTEER INFORMATION: Xaa=Tbg
                  TATH PREEDING
              and Marker CTHER INFORMATION: Asp is accetylated
W--> 233 <400> 13
W--> 234 Asp Xaa Ile Val Pro Cys
              1 - 1
              AND K. TUR SEC ID NO: 14
              139 K. 111 IFNGTH: 6
              MAC K. BLD: TYPE: PHT
              THI FOR ONE ALISM: Pepatitis C
             Maskings FEATURE:
              144 < III NAME/KEY: VARIANT
             .Mo < .:: LOUATION: 1
              Mb < ... Mr OTHER INFORMATION: Asp is adetyrated
             248 - 4000 SEQUENCE: 14
              3:3 A. p. Asp Val Val Pro Cys
             353 K. 10. SEQ 11 NO: 15
               194 *: 12: LENGTH: 6
             200 to a life E: Broke
             ¢56 ·l α OkcANHM: Heparitire W
               ISS 4.11 NAME, FFY: WARIANT
              . . . . . . . A 1.11:
             NOT SINCE OTHER INFORMATION: Yas Cha
             263 - 2. NAME, REY: WAR.AN.
             264 <1211 LOCATION:
             zbb s.zaw OTHER INFORMATION: Asp is anetgiated
W--> 267 <400> 15
```

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Input Set : A:\Corrected sequence listing#2.txt
Output Set : N:\CRF4\01232003\I368670C.raw

```
W--> 268 Asp Asp Xaa Val Pro Cys
     269 1
     272 <210> SEQ 1D NO: 16
     273 < 11> LENGTH: 6
     .74 ..12: TYPE: PKT
     175 (17) ORGANISM: Hepatitis C
     TV -1 201 PHATURE:
     178 K. 213 NAME, KEY: VARIANT
     373 A.Z. LOMATION: 3
     180 7.25 OTHER INFORMATION: Xaa=Tbg
     HER CORD NAME/KEY: VARIANT
     283 \times 237 \text{ LOCATION: } 1
     284 < 239 OTHER INFORMATION: Asp is acetylated
W--> 286 < 400 > 16
W--> 287 Asp Asp Xaa Val Pro Cys
     188 1
     791 S. 160 SEQ ID NO: 17
     297 - 11 ENGTH: 6
     . ** TO TYPE: ELT
               Control to the state of the state of the state of
     . Too 2 K - PEAT HE:
     197 C.2D MAME, HEY: VALUANT
     . 98 -: 2.75 I.OMATI BM: I
     .99 ..25 OTHER INFORMATION: Asp is acetylated
     SCR 34000 SEQUENCE: 17
     rC2 App Asr Let Val Pro Cys
     -C3 :
     006 (100 SEO 10 NO: 18
     0.0 < 0.11 [ENGTH: 6]
     108 K. 125 TYPE: PRT
     :09 < 137 (EGANISM: Hepatitis C
     *12 < 750 NAME/KEY: VARIANT
     61% k.206 LOCATION: 1
     ्री । र १२० ल्यांका राष्ट्रिक्षात्राणणः संबर्गाव बलकापृतिसम्ब
     . 16 (1.60° DEOM NOT: 18
     117 App Asp He I.e Pro Cys
     '2" < 10" SEO "D NO: 39
     12 x %. 100 TY-E: EKI
     S. C. S. SE S. FERTMEE:
      The SID & MAND KOV: WEELVILL
     908 - 120 BOCATION: 4
     12 % STORY OTHER IMPORMATION: Mis Cha
     131 < 201 NAME, KEY: VARIANT
     132 - 21 21 LOCATION: 1
```

133 <123> OTHER INFCEMATION: Asp is acetylated

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 01/23/2003 PATENT APPLICATION: US/09/368,670C

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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:6; Xaa Pos. 6 Seq#:13; Xaa Pos. 2 Seq#:15; Kaā Pos. 3 Seq#:10; Haa Fog. 1 Seq#:19; Kaa Pos. 4 Seq#: NO; Man Pos. 5 Seg#: 36; Nam Pos. 5 Seq#:27; Kaa Pos. 6 Seq#:15; Maa Pos. 6 Seq#:29; Maa Pos. 6 Seq#:30; Naa Pos. 6 Poq#: sl; Haa Pos. 6 Food#: 52; Maa Fue. 5,6 30q#:33; Ka: F +. 1,6 Scou#: ...; Naa Pis. v Req#:56; Haa Pos. 5,5,6 Seq#: 0; Maa Pos. 1,6 Seq#: 06; Kaa Pos. 1,6 Seq#:39; Maa Pos. !,6 Seq#:40; Kaa Pos. 5,6 Seq#:41; Maa Pos. 1,6 Seq#:42; Maa Pos. 5,6 5aq#:43; Maa Fes. 5,6 Seq#:44; Maa Pos. 5,6 Seq#:45; Maa Pos. 5,6 Seg#:46; May Tem. 4,5 Seq#:47; Kaa Pos. 5,6 deq#:48; Maa Fus. 5,6 tog#:49; Man Pos. 5,6 Seq#:50; Asa Pos. 6 Seq#:51; Xaa Pos. 9,6 Brot: E., Kay Pro. 1,6 Sog#:53; Xaa Pos. 5,6

VERIFICATION SUMMARY

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Input Set: A:\Corrected sequence listing#2.txt
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1:66 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3 L:112 M:/58 W: Mandatory Feature missing, </20> Tag not found for SEQ ID#:6 1:116 M:056 W: Mandatory Féature missing, <2002 Tag not found for SEO ID#:6 L:140 H:308 W: Mandatory Feature missing, <2.300 Tag not found for SEQ ID#:6 h:l/l M: 41 W: 446) "n" or "Xaa" used, for AEQ ID#:6 after pos.:0 L:139 M: 58 W: Mandatory Feature missing, 4.300 Tag not found for 3E0 H#: L:238 M: 58 W: Mandatory Feature missing, 4.360 Tag not found for SE0 H#:15 L:234 M: 41 W: +16) "n" or "Kaa" used, for AND ID#:13 after pos.:0 In:Ext M: 75 W: Mandatory Feature missing, <2.35> Tag not found for JEO ID#:15 L:26% M: 41 W: 446) "n" or "Kaa" used, for .E. 11#:35 after pos.:0 L:2%+ M: 58 W: Mandatory Feature missing, < 3.50> lag not found for SEy ID#:16 h:387 M: 41 W: 446) "n" or "Kaa" used, for 580 ID#:16 after pos.:0 L:335 M:..38 W: Mandatory Feature missing, <230> Tag not found for SEQ ID#:19 Libro M: 41 W: ± 46) "n" or "Kaa" used, for SEQ ID#:19 after pos.:0 L:364 M: 38 W: Mandatory Feature missing, ± 3.27 Tag not found for SEQ IL#:20 L:355 M:41 W: (46) "n" or "Xaa" used, for SEQ ID#:20 after pos.:0 L:44% M:.35 W: Mandatory Feature missing, 40.360 Tag not found for SEQ ID#:26 L:4() H: 41 W: 40: "h" or "Maa" used, for CEG ID#:26 after pos.:0 D:46 H:06 W: Mardatory Feature missing, CDC> Tag not found for SEc Hu#:27 Tide H: 4: W: 100 " " or "Dia" upon, for CD TO#:27 after police Bigle Minimum: Wi Mandatory Feature monoring, which has not to the total as $7\% \pm 1\%$ E:48° M: 41 W: 46° "h" or "Maa" used, for :EQ 1L#:28 after bos.:€ L:5% H: 37 W: Mandatory Feature missing, +2.3% Tag not found for SE; II#:29 L:5% H:341 W: 46% "n" or "Xaa" used, for SE; II#:29 after pos.:0 L:524 M:008 W: Mandatory Feature missing, 4000> Tag not found for SEC ID#:00 L:525 M: 41 W: (46) "n" or "Xaa" used, for $\mathbb{Z}\mathbb{H}_{2}$ ID#:30 after pos.:0 L:54 M:.tf W: Mandatory Feature missing, +0.005 Tag not found for SEQ ID#:31 L:844 M: 341 W: 446) "n" or "Xaa" used, for SEQ ID#:31 after pos.:0 1:50 M:00 W: Mindatory Feature missing, MRIN Tag not found for SEQ 10#:62 L:560 M:355 W: Mandatory Feature missing, 33.35 Tag not found for SEQ ID#:32 L:56" M:341 W: (46) "m" or "Maa" used, for SEQ ID#:32 after pos.:0 L:83% M:09- W: Mandatory Feature missing, <220% Tag not found for SEQ 10#:33 L:539 M:MSE W: Mandatory Feature missing, RAMID Tag not found for SEQ ID#:33 L:530 M:341 W: 46+ "b" or "Kab" used, for SEQ IF#:33 after pos.:0 1:6% N:25a W: Mandatory Feature missing, <280 × Tag not found for 3E⊋ ID#:34 1:600 M:341 W: 46. "n" or "Xaa" used, for 322 II#:31 after pos.:0 L:62 M:215 W: Mandatory Feature missing, +22. Tag not found for JFQ ID#:55 1:62 M:341 W: 46: "h" or "Maa" used, for SEQ ID#:35 after pos.:0 Taginationed to OPP ID#:36 1:646 M:258 W: Mandatory Fea are missing, and 1:000 M:200 W: Mundatory Feature missing, +200 The found for SFQ 1D#:30 nigos Minis Wi Mandali av reserva a comes, ou o Tura a for a casa Ago He: 8 ':(' '':'4| W: 46' "h" or "Nau" used, for SPO ID#:36 after pos.:0 unces offices Windamson of the contraction of the contraction of the state of the ext 1:67 M:25c W: Mandatury Feature missing, <22/2 Tag not found for FR II#:3 h:67) M:341 W: (46) "n" or "Xaa" asod, for any lift:57 after pin.:6 1:636 M:250 W: Mandatory Foature missing, <220. Tau not found for SFQ ID#:3% Ta:700 M:250 W: Mandatory Feature missing, <2200 Terror found for SFQ ID#:3% L:701 M:341 W: (46; "n" or "Xaa" used, for SEQ 10#:38 after pes.:0

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Input Set : A:\Corrected sequence listing#2.txt
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L:719 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:39 L:723 M:258 W: Mandatory Feature missing, <2200 Tag not found for SEQ 11#:39 L:724 !!:341 W: (46) "r." or "Xaa" uses, for SEQ ID#:39 after pos.:0 L:74f H: Not W: Mandatory Feature missing, <2200 Tag not found for SE@ 1D#:40 L:746 M: Uf W: Mandatory Feature missing, <2.00 Tag not found for SE, IL#:40 L:747 H:341 W: .46) "n" or "Xaa" used, for SEQ ID#:40 after pos.:0 L:765 M: 16 W: Mandatory Feature missing, <2.22 Tag not found for SE, II#:41 L:709 M: . : W: Mandatory Féature missing, 13 DE Tag not found for SE: ID#:41 L:7. M: wil W: 460 "n" or "Xaa" used, for SEQ fD#:41 after pos.:0 L:748 M: M: Mandatory Feature missing, < MISS: Tag not found for SE, If#:42 L:782 M:06 W: Mandatory Feature missing, <2200 Tag not found for SE, ID#:48 L:793 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42 after pos.:0 L:311 M: 11: W: Mandatory Feature missing, 42.200 Tag not found for SEQ ID#:45 L:31: M: 52 W: Mandatory Feature missing, 42.200 Tag not found for SEQ ID#:45 L:316 M: 41 W: (46) "n" or "Kaa" used, for SEQ ID#:43 after pos.:0 L:834 M:258 W: Mandatory Feature missing, <2.235 Tag not found for SEQ ID#:44 L:836 M:58 W: Mandatory Feature missing, <2.255 Tag not found for SEQ ID#:44 $E:\mathbb{R}^{3}\times\{11:44\}$ W: (46) "" or "Xaa" used, for SEQ ID#:44 after pos.:0 N:857 M:.!: W: Mardatiry Feature missing, 40.00. Tag not found for SEQ IF#:45 ::557 M: - W: Mardatiry feature rissing, 5000 Tag not found for SEQ ID#:45 Direction of with the "D" of "High" of the C. L:3: M: :: W: Mandatory Feature missing, L.:7 Tag not sound for SE, Ti#:40 L:3:4 M:.:c W: Mandatory Feature missing, CLTT Tag not found for SEC ID#:40 L:3:4 M: 41 W: \cdot 46) "n" or "Xaa" used, for SEC ID#:46 after pos.:0 L:973 M:.18 W: Mandatory Feature missing, C2.200 Tag not found for SEQ ID#:47 L:977 M:.18 W: Mandatory Feature missing, C2.200 Tag not found for SEQ ID#:47 L:9]8 H: 41 W: 446) "n" or "Xaa" used, for SEQ ID#:47 after pos.:0 L:936 M: NE W: Mandatory Feature missing, <2330 Tag not found for SEQ ID#:48 L:9:0 M: 1- W: Mandatory Feature missing, <2.22 Tag not found for SEQ ID#:48 1:951 M: 41 W: .46) "n" or "Xaa" used, for SEQ 4D#:48 after pos.:6 L:94) M: 56 W: Mandatory Feature missing, <2200 Tag not found for SEQ ID#:49 L:954 M: ∴1 W: [46] "n" or "Xaa" used, for SEQ ID#:49 after pos.:0 L:973 M:541 W: (46) "n" or "Xaa" used, for SEQ ID#:50 after pos.:0 1:496 M:341 W: (46) "n" or "Xaa" used, for SFQ ID#:51 after pos.:0 L:1319 M:341 W: (46) "n" or "Xaa" used, for SFO 10#:55 attn: pcs.:0 L:1042 M:541 W: (4m) "h" or "Xaa" u.kd, fir fug tod:54 after pos.:0